# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

| Complete if Known | |
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| Application Number | 10/696,708 |
| Filing Date | 30 October 2003 |
| First Named Inventor | Mark T. KEATING et al. |
| Group Art Unit | 1636 |
| Examiner Name | |
| Attorney Docket Number | 2323-164 |

Sheet 1 of 4

## U.S. PATENT DOCUMENTS

| Examiner Initials* | Cite No.[1] | U.S. Patent Document Number | Kind Code[2] (if known) | Name of Patentee or Applicant of Cited Document | Date of Publication of Cited Document MM-DD-YYYY |
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| CQ | AA | 5,599,673 | | Keating et al. | 02-04-1997 |
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## FOREIGN PATENT DOCUMENTS

| Examiner Initials* | Cite No.[1] | Foreign Patent Document Office[3] Code | Number[4] | Kind[5] (if known) | Name of Patentee of Applicant of Cited Document | Date of Publication of Cited Document MM-DD-YYYY | T[6] |
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| Examiner Signature | | Date Considered | 11/13/06 |
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[1]Unique citation designation number. [2]See attached Kinds of U.S. Patent Documents. [3]Enter Office that issued the document, by the two-letter code. [4]For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5]Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. [6]Applicant is to place a check mark here if English language translation is attached. AB indicates that only an English language abstract is attached.

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**NON PATENT LITERATURE DOCUMENTS**

| Examiner Initials* | Cite No.[1] | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published | T[2] |
|---|---|---|---|
| CQ | AB | Ackerman, M.J., M.D., Ph.D., "The Long QT Syndrome: Ion Channel Diseases of the Heart", *Mayo Clin. Proc.* 1998; 73:250-269 | |
| | AC | Akimoto, K., et al., "Novel Missense Mutation (G601S) of HERG in a Japanese Long QT Syndrome Family", HUMAN MUTATION Supplement 1998; 1:S184-S186 | |
| | AD | Babij, P., et al., "Inhibition of Cardiac Delayed Rectifier $K^+$ Current by Overexpression of the Long-QT Syndrome HERG G628S Mutation in Transgenic Mice", *Circ. Res.* 1998; 83(6):668-678 | |
| | AE | Benson, D., et al., "Missense Mutation in the Pore Region of *HERG* Causes Familial Long QT Syndrome", *Circulation* May 15, 1996; 93(10):1791-1795 | |
| | AF | Curran, M., et al., "A Molecular Basis for Cardiac Arrhythmia: *HERG* Mutations Cause Long QT Syndrome", *Cell* March 10, 1995; 80:795-803 | |
| | AG | Dausse, E., et al., "A mutation in HERG Associated with Notched T Waves in Long QT Syndrome", *J. Mol. Cell Cardiol.* 1996; 28:1609-1615 | |
| | AH | Fung, D., et al., "RsaI and MaeI intragenic RFLPs in the human HERG gene", *Clin. Genet.* 1998; 53:504 | |
| | AI | Itoh, T., et al., "Genomic organization and mutational analysis of *HERG*, a gene responsible for familial long QT syndrome", *Hum. Genet.* 1998; 103:290-294 | |
| | BA | Janse, M.J. and Wilde, A.A.M., "Molecular Mechanisms of Arrhythmias", *Rev. Port. Cardiol.* 1998; 17(Supl. II):41-46 | |
| | BB | Jiang, C., et al., "Two long QT syndrome loci map to chromosomes 3 and 7 with evidence for further heterogeneity", *Nature Genetics* October 1994; 8:141-147 | |
| | BC | Keating, M.T., MD, "Genetic Approaches to Cardiovascular Disease Supravalvular Aortic Stenosis, Williams Syndrome, and Long-QT Syndrome", *Circulation* 1995; 92(1):142-147 | |
| | BD | Keating, , M.T., "The Long QT Syndrome A Review of Recent Molecular Genetic and Physiologic Discoveries", *Medicine* 1996; 75(1):1-5 | |
| | BE | Kupershmidt, S., et al., "A $K^+$ Channel Splice Variant Common in Human Heart Lacks a C-terminal Domain Required for Expression of Rapidly Activating Delayed Rectifier Current", *J. Biol. Chem.* Oct. 16, 1998 273(42):27231-27235 | |
| V | BF | Lazzara, R., "Mechanisms and management of congenital and acquired long QT syndromes", *Arch. Mal. Coeur Vass.* 1996; 89 (Spec. No. 1)51-55 | |

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|---|---|---|---|
| CQ | BH | Locati, E.H., et al., "Age- and Sex-Related Differences in Clinical Manifestations in Patients With Congenital Long-QT Syndrome", *Circulation* June 9, 1998; 97(22):2237-2244 | |
| | BI | London, B., et al., "Two Isoforms of the Mouse *Ether-a-go-go*-Related Gene Coassemble to Form Channels With Properties Similar to the Rapidly Activating Component of the Cardiac Delayed Rectifier $K^+$ Current", *Circ. Res.* Nov. 1997; 81(5):870-878 | |
| | BJ | McDonald, T., et al., "A minK-HERG complex regulates the cardiac potassium current $I_{Kr}$", *Nature* July 17, 1997; 388:289-292 | |
| | BK | Roden, D.M., et al., "Multiple Mechanisms in the Long-QT Syndrome", *Circulation* 1996; 94(8):1996-2012 | |
| | CA | Roden, D.M., et al., "Recent Advances in Understanding the Molecular Mechanisms of the Long QT Syndrome", *J. Cardiovasc. Electrophysiol.* Nov. 1995; 6(11)1023-1031 | |
| | CB | Sanguinetti, M.C., et al., "A Mechanistic Link between an Inherited and an Acquired Cardiac Arrhythmia: *HERG* Encodes the $I_{Kr}$ Potassium Channel", *Cell* April 21, 1995; 81:299-307 | |
| | CC | Satler, C., et al., "Multiple different missense mutations in the pore region of *HERG* in patients with long QT syndrome", *Hum. Genet.* 1998; 102:265-272 | |
| | CD | Satler, C., et al., "Novel Missense Mutation in the Cyclic Nucleotide-Binding Domain of *HERG* Causes Long QT Syndrome", *American Journal of Medical Genetics* 1996; 65:27-35 | |
| | CE | Schönherr, R., et al., "Molecular determinants for activation and inactivation of HERG, a human inward rectifier potassium channel", *Journal of Physiology* 1996; 493.3:635-642 | |
| | CF | Schulze-Bahr, E., et al., "Autosomal recessive long-QT syndrome (Jervell Lange-Nielsen syndrome) is genetically heterogeneous", *Hum. Genet.* 1997; 100:573-576 | |
| | CG | Schwartz, P., et al., "Long QT Syndrome Patients With Mutations of the *SCN5A* and *HERG* Genes Have Differential Responses to $Na^+$ Channel Blockade and to Increases in Heart Rate", *Circulation* Dec. 15, 1995; 92(12):3381-3386 | |
| | CH | Splawski, I., et al., "Genomic Structure of Three Long QT Syndrome Genes: *KVLQT1, HERG* and *KCNE1*", *Genomics* 1998; 51:86-97 | |
| | CI | Tanaka, T., et al., "Four Novel *KVLQT1* and Four Novel *HERG* Mutations in Familial Long-QT Syndrome", *Circulation* Feb. 4, 1997; 95(3):565-567 | |
| | CJ | Trudeau, M., et al., "HERG, a Human Inward Rectifier in the Voltage-Gated Potassium Channel Family", *Science* July 7, 1995; 269:92-95, 1087 | |

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|---|---|---|---|
| CQ | CK | Vincent, G.M. MD, "The Molecular Genetics of The Long QT Syndrome: Genes Causing Fainting and Sudden Death", *Annu. Rev. Med.* 1998; 49:263-74 | |
| | CL | van den Berg, M., et al., "The long QT syndrome: a novel missense mutation in the S6 region of the KVLQT1 gene", *Hum. Genet.* 1997; 100:356-361 | |
| | DA | Wang, Q., et al., "Genetics, molecular mechanisms and management of long QT syndrome", *Ann. Med.* 1998; 30:58-65 | |
| | DB | Wang, Q., et al., "The molecular basis of long QT syndrome and prospects for therapy", *Mol. Med. Today* Sept. 1998; 4(9):382-388 | |
| | DC | Wang, Q., et al., "Molecular genetics of long QT syndrome from genes to patients", *Curr. Opin. Cardiol.* 1997; 12:310-320 | |
| | DE | Warmke, J.W. et al., "A family of potassium channel genes related to *eag* in *Drosophila* and mammals" *Proc. Natl. Acad. Sci. USA* 91:3439-3442 (1994) | |
| | DF | Wattanasirichaigoon, D. and Beggs, A.H., "Molecular genetics of long-QT syndrome", *Curr. Opin. Pediatr.* 1998; 10:628-634 | |
| | DG | Zareba, W., et al., "Influence of the Genotype on the Clinical Course of the Long-QT Syndrome", *N. Eng. J. Med.* Oct. 1998; 339(14):960-965 | |
| | DH | Zhou, Z., et al., "HERG Channel Dysfunction in Human Long QT Syndrome", *J. Biol. Chem.* Aug. 14, 1998; 273(33):21061-21066 | |
| | DI | Zou, A., et al., "A mutation in the pore region of HERG K$^+$ channels expressed in *Xenopus* oocytes reduces rectification by shifting the voltage dependence of inactivation", *Journal of Physiology*, 1998; 509.1:129-137 | |
| | DJ | OMIM ENTRY 152427 - LONG QT SYNDROME, TYPE 2; LQT2 7pp. No date | |
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